

We claim:

1. A pallet support apparatus comprising:

two parallel opposed substantially horizontal rails (12) spaced to receive opposed side edge portions of a pallet moved in a substantially horizontal plane between the rails;

one or more clamping members (30) movable to a locking position to engage the upper surface of a pallet supported by the rails, and

a stop (48) on or adjacent at least one of the rails near an end of the support remote from that normally used for loading the pallet.

2. Apparatus according to Claim 1, wherein the stop (48) includes an elongate plate having a substantially vertical portion (49) and a transverse portion (50), the transverse portion being substantially perpendicular to the vertical portion and extending towards the loading end of the support.

3. Apparatus according to Claim 1, wherein the stop (48) includes an elongate plate having a substantially vertical portion (49) and a transverse portion (50), the transverse portion being substantially perpendicular to the vertical portion and extending towards the loading end of the support and wherein the width of the stop (48) is substantially equal to that of the rail (12) or the stop is approximately equal in width to a pallet.

4. Apparatus according to Claim 1, further including one or more gate members (21) located near the loading end of the support, the gate member being movable between a locking position where it protrudes into the path of the pallet at or near the loading end of the support and a release position where it is clear of the path.

5. Apparatus according to Claim 1, further including one or more gate members (21) located near the loading end of the support, the gate member being movable between a locking position where it protrudes into the path of the pallet at or near the loading end of the support and a release position where it is clear of the path, wherein the gate member (21) is movable by means of a pivot fitted near the loading end of the support.

6. Apparatus according to Claim 1, further including one or more gate members (21) located near the loading end of the support, the gate member being movable between a locking position where it protrudes into the path of the pallet at or near the loading end of the support and a release position where it is clear of the path, wherein a pair of said gate members (21) is provided, one of the pair being located near a respective one of the opposed rails (12), the gate member including an angled bracket having a first portion and a second portion substantially perpendicular to the first, the second portion extending into the path of the pallet when the gate member is in its locking position.

7. Apparatus according to Claim 1, further including one or more gate members (21) located near the loading end of the support, the gate member being movable between a locking position where it protrudes into the path of the pallet at or near the loading end of the support and a release position where it is clear of the path, wherein the gate member (21) extends substantially along the entire height of the support.

8. Apparatus according to Claim 1, further including one or more gate members (21) located near the loading end of the support, the gate member being movable between a locking position where it protrudes into the path of the

pallet at or near the loading end of the support and a release position where it is clear of the path, wherein the gate member (21) is fitted with a locking mechanism, such as a biased shoot bolt (22), that can engage the support.

9. Apparatus according to Claim 1, wherein the clamping member (30) includes an arm (36) that can be moved to the locking position about a pivot (34).

10. Apparatus according to Claim 1, wherein the clamping member (30) includes an arm (36) that can be moved to the locking position about a pivot (34) and wherein the arm (36) includes a clamp (38, 40, 42) that can be adjusted to contact the upper surface of the pallet.

11. Apparatus according to Claim 1, wherein clamping members (30) are located parallel with the rails (12).

12. Apparatus according to Claim 1, wherein sides of the support include one or more apertures (10A) or slots for receiving a member, such as a pin or strap, inserted through a corresponding aperture or slot in the side of the pallet to further help secure the pallet on the support.

13. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end.

14. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least

partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end, the apparatus including a further pair of rails (54) located spaced above and substantially parallel with the horizontal rails (12), in use the pallet being supported between the horizontal and further rails.

15. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end, wherein sides of the shelf (52) include low friction devices, such as a wheel (58), to assist sliding the shelf along the rails (12).

16. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end, wherein sides of the shelf (52) include low friction devices, such as a wheel (58), to assist sliding the shelf along the rails (12), and wherein the wheel (58) is sized so as to contact the horizontal rail (12) and the corresponding upper rail (54).

17. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least partially beyond the loading end of the support and a storage position where it

does not substantially protrude beyond the loading end, the apparatus including a low friction device, such as a wheel (64), located on the support beyond the loading end of the horizontal rails and substantially at the same level as the horizontal rail(s) to help support the shelf (52) when it is in its loading/unloading position.

18. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end, the apparatus further including a rear shelf stop (60) fitted on the sides of the support at or near the end of the support remote from the loading end.

19. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end, the apparatus further including a front shelf stop (62) fitted to at least one side of the support at or near the loading end, the sides of the shelf (52) including a corresponding member that can engage with the front shelf stop to limit movement of the shelf.

20. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least partially beyond the loading end of the support and a storage position where it

does not substantially protrude beyond the loading end, wherein the front of the shelf (52) is fitted with one or more impact-resistant member, such as rubber vibration suppression bumpers (29), intended to reduce or eliminate damage caused by contact with parts of the support.

21. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end, the apparatus further including a secondary lock mechanism (68) fitted near the loading end of the support, the lock mechanism including a locking member (70) that can releasably engage the shelf (52).

22. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end, the apparatus further including a secondary lock mechanism (68) fitted near the loading end of the support, the lock mechanism including a locking member (70) that can releasably engage the shelf (52), wherein lock mechanism (68) operates under gravity to lock the shelf and requires user intervention to unlock the shelf.

23. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least

partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end, the apparatus further including a secondary lock mechanism (68) fitted near the loading end of the support, the lock mechanism including a locking member (70) that can
5 releasably engage the shelf (52), wherein the shelf (52) includes one or more projections (76, 78) for engaging with the locking member (70).

24. Apparatus according to Claim 1, further including a shelf (52) movably mounted on the rails (12), the shelf adapted for supporting the pallet and being movable between a loading/unloading position where it protrudes at least
10 partially beyond the loading end of the support and a storage position where it does not substantially protrude beyond the loading end, the apparatus further including a secondary lock mechanism (68) fitted near the loading end of the support, the lock mechanism including a locking member (70) that can releasably engage the shelf (52), wherein the shelf (52) includes one or more
15 projections (76, 78) for engaging with the locking member (70), wherein the locking member (70) includes a pivotable elongate member having a notch (74) or cut out section for engaging a said projection (76).

25. A pallet system including a pallet support apparatus according to Claim 1 and one or more pallets.

20 26. A support apparatus comprising:

two parallel opposed substantially horizontal lower rails (12);

two parallel opposed substantially horizontal upper rails (54) located above and spaced apart from the corresponding lower rails;

a shelf (52) having opposed side edge portions slidably mounted on the lower rails, the shelf being moveable in a substantially horizontal plane between the upper and lower rails between a loading position where it protrudes at least partially beyond an end of the support and a storage position where it does not substantially protrude beyond the end of the support;

one or more rail stop (60, 62) on or adjacent one or more respective said rail;

the shelf including a first stop (59) at or near one of its ends so that in use the movement of the shelf is limited by engagement of the rail stop with the first stop,

the shelf further including a second stop (58) disposed between the lower and the upper rails when the shelf is in its storage position, thereby limiting vertical displacement of the shelf.

27. Apparatus according to Claim 26, including a pair of corresponding first (59) and second stops (58) located on the opposing side edges of the shelf (52).